

IN THE CLAIMS:

1-4. (Canceled)

5. (Currently Amended) A device for manufacturing a honeycomb structure with a plurality of flexible material strips arranged next to one another, the strips being connected to one another, the material strips having a corrugated shape with a U-shaped cross section of essentially straight vertical partial areas and curved horizontal partial areas, the material strips being connected to one another at ~~the contact points~~ lines of the straight vertical partial areas, the device comprising:

laterally disconnected welding sections guiding the equipped with heated welding wires,  
by which said flexible material strips;

~~— a comb-like finger system~~ are guided, said material strips being welded to one another ~~with the~~ by means of a comb-like finger system; moveable into the material strips to generate a welding surface, and to fold the material strips to a honeycomb structure by a lateral displacement of either the finger system or the welding sections and to perform a pressing-on motion by either the finger system or the welding sections, to press two material strips onto a heated welding wire, thermally connecting the material strips; and

feed elements generating a feed motion of the honeycomb by a distance of one honeycomb hole diameter whenever a welding cycle of one honeycomb layer is performed after the finger system has moved out of the honeycomb layer after the welding of the material strips

is finished, and the finger system or the welding sections being laterally displaced by two sections;

~~—— a pressing-on device between the finger and a distance corresponding to twice the distance between two welding spots and wherein the finger system or the welding section pressing two material strips onto a heated welding wire to produce a thermal connection of the material strips.~~ sections perform a lateral displacement by the same distance during the first welding cycle in one direction and during the following welding cycle in the opposite direction.

6. (Currently Amended) A device in accordance with claim 5, wherein said fingers of the finger system are equipped with a heating wire for welding together the material strips.

7. (Currently Amended) A device in accordance with claim 5, wherein both ~~the~~ said welding sections and the said fingers are equipped with a heating wire for welding together the material strips.

8-13. (Canceled)

14. (Currently Amended) A device in accordance with claim 5, wherein the feeding of the honeycomb can be accomplished by means of ~~the slide~~ said feed elements ~~at the~~ between said welding sections, but also with a second finger systems which moves into the completely welded honeycomb and subsequently performs a feed motion.

15. (New) A device for manufacturing a honeycomb structure in accordance with claim 5, further comprising:

flexible welding pads on fingers of said finger system.

16. (New) A device for manufacturing a honeycomb structure with a plurality of flexible material strips arranged next to one another, the strips being connected to one another, the material strips having a corrugated shape with a U-shaped cross section of essentially straight vertical partial areas and curved horizontal partial areas, the material strips being connected to one another at contact lines of the straight vertical partial areas, the device comprising:

welding sections arranged spaced relative to each other, said material strips being feedable between said welding sections by feed elements; and

a finger system corresponding to said welding sections, said finger system being laterally displaceable relative to said welding sections displacing said material strips after feeding by said feed elements, to form U-shaped sections, subsequent to said lateral displacing of said material strips, said finger system pressing said material strips against said welding sections between a heating wire on one or both of said welding sections and said finger system to form a thermal weld between two of said material strips, said finger system then retracting from between said material strips, moving in a lateral direction opposite to that of the last lateral displacement, inserting between said material strips displaced by two welding sections, and repeating said steps but with a displacement in an opposite lateral direction beginning with said feed elements

feeding said material strips.

17. (New) A device for manufacturing a honeycomb structure in accordance with claim 16, further comprising:

flexible welding pads on said fingers of said finger system.

18. (New) A method of forming a U-shaped honeycomb structure from a plurality of material strips, the method comprising:

- a) feeding material strips by means of feed elements between welding sections;
- b) inserting fingers of a finger system, with said fingers corresponding to said welding sections, between said material strips and laterally displacing said fingers with said material strips by two welding sections relative to said welding sections;
- c) moving said finger system against said welding sections pressing two layers of said material strips together between one or more of said welding sections and said fingers;
- d) heating said layers of material strip pressed together to form a thermal weld;
- e) withdrawing said fingers from between said material strips; and
- f) continuing to perform steps a-e, while alternating the lateral displacement direction in step b each time it is performed, until a desired amount of

honeycomb structure is produced.